(SUBSTANTIALLY SIMILAR TO) CLEAN FILL DETERMINATION REPORT

WEST SIDE QUARRY LLC

6655 SW Hergert Road
Cornelius, Oregon 97113
Washington County Tax Lot 1S3200000405

ODEQ Case No. WQ/SW-NWR-2019-171

Prepared for:

West Side Quarry LLC
PO Box 1060
Woodburn, Oregon 97071

Issued on:

January 15, 2021
EVREN NORTHWEST, INC.
Project No. 1350-20001-01

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This

(SUBSTANTIALLY SIMILAR TO) CLEAN FILL DETERMINATION REPORT

Report for:

WEST SIDE QUARRY LLC

6655 SW Hergert Road
Cornelius, Oregon 97113

Has been prepared for the sole benefit and use of our Client:

West Side Quarry LLC

PO Box 1060
Woodburn, Oregon 97071

Issued January 15, 2021 *by:*

EVREN NORTHWEST INC
environmental / natural resource consultants

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EXP. 2/1/2022

Table of Contents

List of Tables and Figures

Tables

Figures

Appendices

List of Acronyms and Abbreviations

amsl	above mean sea level
bgs	below ground surface
BPA	bisphenol A
CFSLs	Clean Fill Screening Levels
COIs	Constituents of Interest
CRB	Columbia River Basalt
CV	coefficient of variance
DOGAMI	Department of Geology and Mineral Industries
DU	Decision Unit
ENW	EVREN Northwest, Inc.
EPA	Environmental Protection Agency
F&BI	Friedman & Bruya, inc.
G2G	Glass to Glass
IMD	Internal Management Directive
ISM	Incremental Sampling Method
ITRC	Interstate Technology & Regulatory Council
mg/Kg	milligrams per Kilogram
MRL	method reporting limit
OAR	Oregon Administrative Rule
ODEQ	Oregon Department of Environmental Quality
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
SVOCs	semi-volatile organic compounds
VOCs	volatile organic constituents
West Side Entities	Columbia Northwest Recycling, Inc. (doing business as Construction Materials Recycling), West Side Quarry LLC, Westside Redi-Mix & Rock, Inc. (formerly known as Westside Rock, Inc.), and Westside Rock & Reclaim, LLC

1.0 Introduction

At the request of "West Side Entities" (client)[1], EVREN Northwest, Inc. (ENW) has conducted a (Substantially Similar to) Clean Fill Determination of glass cullet materials at the West Side Rock quarry, located at 6655 Hergert Road in Cornelius, Oregon. This work followed the scope of work presented in ENW's "Clean Fill Determination Work Plan," dated November 16, 2020 (Work Plan)[2], which was approved by the Oregon Department of Environmental Quality (ODEQ) on November 13, 2020.

1.1 Background

ENW's Work Plan was developed in response to various actions undertaken by the Oregon Department of Environmental Quality (ODEQ) and/or Oregon Department of Geology and Mineral Industries (DOGAMI) against "West Side Entities." Among other proposed findings and actions in the ODEQ and DOGAMI orders at issue, ODEQ has directed the glass cullet maintained on the property operated upon by the West Side Entities be disposed of in a landfill.

As an alternative to offsite disposal, West Side Entities has requested that ODEQ consider approval of disposing of this material as clean fill at the site under the DOGAMI approved reclamation plan. In a September 14, 2020 email, ODEQ stated they could provide "other written authorization" if West Side Entities met the requirements of Oregon Administrative Rule (OAR) 340-093-0080(2) for a permit exemption. Under this option, West Side Entities is required to demonstrate that the glass cullet is substantially the same as clean fill.

ENW's Work Plan provides a scope of work that meets the criteria presented on pages 6 and 7 of ODEQ's Clean Fill Determination Internal Management Directive (IMD), specifically that:

1. The material is inert,
2. The material is stable and physically similar to clean fill, and
3. The material will not discharge constituents which would adversely impact the waters of the state.

If client meets the criteria in the IMD, ODEQ may be able to provide a permit exemption after consulting with DOGAMI. DOGAMI may be able to approve fill approved through a permit exemption for use as fill at the facility.

[1]West Side Entities is comprised of (1) Columbia Northwest Recycling, Inc. (doing business as Construction Materials Recycling), (2) West Side Quarry LLC, (3) Westside Redi-Mix & Rock, Inc. (formerly known as Westside Rock, Inc.), and (4) Westside Rock & Reclaim, LLC

[2]ENW, 2020. (Substantially Similar To) Clean Fill Determination Work Plan, West Side Quarry LLC, 6655 SW Hergert Road, Cornelius, Oregon 97113, Washington County Tax Lot 1S3200000405, dated November 16, 2020.

1.2 Description of Glass Cullet

Sometime in early 2017, West Side Entities brought glass cullet to the site as part of a supplementary recycling operation. All the glass cullet was preprocessed prior to arrival at the West Side Entities site, whereby the majority of non-glass material (primarily wood, paper, plastic, metal, and cork) was removed in a crushing and sorting process.

Over the next few years, the material was stockpiled at the upper level of the quarry and gradually further processed using West Side Entities equipment that crushed the material and screened it down to approximately ½" size.

Some of the glass cullet and process by-products have been removed from the site and appropriately disposed. All the remaining glass cullet at the site is of category Type 2[3] as defined in the Work Plan[2]. Approximately 3,000 cubic yards of the material is present in one large stockpile at the upper quarry level, next to where it was processed. Approximately 500 cubic yards of Type 2 material has been placed in limited areas of the quarry as a levelling course in the equipment parking area and in haul roads or as berms around parking areas in the upper and middle parts of the quarry.

1.3 Purpose

The purpose of the assessment is to gather enough information to conduct a substantially similar to clean fill determination in accordance with the IMD. This determination will be used to request a solid waste exemption from ODEQ to allow for use of the Type 2 material stockpile to be used for road surfacing and berms at the quarry, reclamation quarry fill, and allow the materials already placed in roads and berms to be left in place.

Since there is disagreement between West Side Entities and ODEQ on where Type 2 material is located at the quarry, the work assumed two test areas or decision units (DU):

- DU01: Type 2 glass cullet fill material in stockpile at upper level of quarry.
- DU02: Type 2 glass cullet fill material used for road surfacing and berms.

1.4 Authorization

ODEQ approved the Work Plan on November 13, 2020.

[3] Glass cullet following further onsite processing, using equipment that further crushed the material and screened it down to approximately ½" size.

1.5 Scope of Work

ENW developed the following SOW for this project:

- Prepared an in-house Sampling and Analysis Plan following the protocols outlined in the approved work plan[2], using the guidance provided in the Interstate Technology & Regulatory Council (ITRC) Incremental Sampling Methodology (ISM) guidance document.[4]
- Collected samples of the material from two decision units (DU) using ISM protocol.
- Submitted ISM samples to an independent laboratory for selected analytical procedures.
- Evaluated analytical data with respect to Oregon soil cleanup standards.
- Prepared this report documenting findings and analytical data.

The field activities described in this report were performed on December 17, 2020.

2.0 Site Setting

2.1 Location, Land Use and Site Description

The subject property is located in the southern part of the Tualatin Valley in western Washington County (Figure 1). The site is identified on Tax Map 1S320 in the SE quarter of Section 20, Township 1 South Range 3 West, and it is over 100 acres in total area. Adjoining and nearby properties surrounding the subject site are primarily agricultural in use.

Since at least April 1997, West Side Entities has conducted mining operations at the subject site under a DOGAMI mine operating permit. Mining operations reportedly ceased in or around early 2016 and mine reclamation commenced.

2.2 Topography

According to the US Geologic Survey Laurelwood, Oregon 7.5-minute quadrangle map, the property ranges in elevation from approximately 300 feet above mean sea level (amsl) at its northeast corner near the valley floor to over 600 feet amsl at its southwest corner (see Figure 1). Most surface water run on enters the site at the southern end of the property.

2.3 Geology and Soils

The subject quarry site is located at the northern end of the Chehalem Mountains, which form the southwestern border of the Tualatin Valley lowland. The Chehalem Mountains are mapped by Trimble (1968) as Miocene and Pliocene Columbia River Basalts (CRB) comprising a series of tholeiitic flood basalts. Deformation of the CRB forms a structural basin below the Tualatin Valley which has been filled with up to 1,300 feet of lacustrine and fluvial deposits of lower Pliocene age (Trimble, 1963).

[4] ITRC, February 2012. *Incremental Sampling Methodology, Technical and Regulatory Guidance*: Prepared by The Interstate Technology & Regulatory Council Incremental Sampling Methodology Team.

2.4 Hydrogeology

Ground water occurs within porous, broken basalt layers and occasional soft interbeds within the underlying basalt units. Numerous water wells derive water from these aquifers. Completion depths of nearby wells range from 155 to 605 feet below ground surface (bgs), and depth to first ground water occurred at depths between 85 feet and 500 feet bgs[5].

3.0 Methods and Procedures

This section describes the field investigation activities completed during this assessment. Field activities for this project were performed on December 17, 2020. Photos of field work are presented in Appendix A. Figure 3 presented the investigation decision units and sampling locations.

3.1 Work Objectives

In addition to the stated project objectives, the following general objectives were followed:

- To perform all work in a safe manner for technical personnel.
- To perform all work efficiently and cost-effectively, without interfering or otherwise affecting the condition and operation of the property.
- To document information and data generated under this Scope of Work that is valid for the intended use.

3.2 Preparation Activities

Field Work Preparation. An in-house Sampling and Analysis Plan was developed based on the work objectives listed above, following the protocols outlined in the approved work plan[2].

3.3 Soil Sample Collection

On December 17, 2020, ENW applied the ISM process to assess glass cullet inside two decision units (DU) at the subject site. For this assessment, DUs are selected and described as follows and the locations of DU01 and DU02 are presented on Figure 3:

- **Decision Unit DU01 (Type 2 Material Stockpile)**: DU01 is defined as the volume of Type 2 glass cullet material contained in the "Type 2 Material Stockpile." The stockpile is located in the upper level of the quarry and contains an estimated 3,000 cubic yards of Type 2 material and a minor fraction of residual.
- **Decision Unit DU02 (In-Place Type 2 Material):** DU02 is defined as the Type 2 glass cullet material placed on roads and berms within the quarry. The portion of the haul road included in DU02

[5] EVREN Northwest, Inc., November 25, 2020. *Ground Water Assessment*, West Side Quarry, LLC, 6655 SW Hergert Road, Cornelius, Oregon.

begins below the lower switchback and follows the haul road up around the switchback past the equipment parking area and ends at the parking area at the upper level of the quarry. DU02 includes the 2- to 3-foot-high berms of Type 2 material in the middle and upper levels of the quarry.

The ISM protocol is explained in detail in a February 2012 guidance document issued by the Interstate Technology Regulatory Council.[4] The sampling protocols in the ITRC guidance provides a reasonably unbiased estimated of the average contaminant concentration across a targeted area (i.e., decision unit, or "DU"). Sample increments from each DU are combined and processed separately, then each subsampled according to specific protocols at the laboratory.

ENW collected increment samples (increments) from each DU as follows. Sample locations are summarized on Table 3-1 and their locations are presented on Figure 3.

Table 3-1. Decision Unit Sample Summary

Sample Location	Date Sampled	Location
DU01	12/17/20	Stockpiled Processed Glass Cullet
DU01-REP01	12/17/20	
DU01-REP02	12/17/20	
DU02	12/17/20	Roadway Cover & Berms
DU02-REP01	12/17/20	
DU02-REP02	12/17/20	

- Decision Unit DU01 was divided into a grid pattern of 20 grids (plan view). Grid-center systematic sampling was employed, in which three increments comprised of grab samples of equal mass were collected from the approximate center of each of the 20 grids at the surface, middle, and base of the stockpile. In total, 60 increments comprised the primary incremental sample (IS) collected from the stockpile at DU01.
- Decision Unit DU02 was divided into 40 target increments. Similar to above, increments were collected from the approximate location of each target, resulting in collection of 40 increments for the primary IS from DU02. Increments were collected from materials in the haul roadbed and shoulders, equipment parking area, and the 2- to 3-foot-tall berms bordering the haul road and surrounding equipment parking areas.

Increments, weighing approximately 40 grams each, were collected using a decontaminated hand auger, decontaminated stainless-steel trowel, or center of the excavator bucket, weighed, and placed into a dedicated laboratory-provided one-gallon glass sample container using fresh Nitrile gloves. Two replicates that are independent from the original incremental sampling locations were collected within both DU01 and DU02. Each replicate consisted of 60 or 40 increments, respectively, and each increment was collected within a few feet of the original increment in all grids.

Using this methodology, separate 1-gallon glass jars containing 60 increments were collected for primary IS DU01 and its two replicates DU01-REP01 and DU01-REP02, and 40 increments were collected for primary IS DU02 and its two replicates DU02-REP01 and DU02-REP02.

Individual IS samples and replicates were uniquely labelled and temporarily stored on ice in a cooler pending transport to the project laboratory.

During incremental sampling, materials were inspected, photographed, and qualitatively described, including an assessment of the physical characteristics of hazardous or solid waste such as staining, chemical odors, and debris.

3.4 Laboratory Sub-Sampling, Compositing and Analytical Methods

Two IS samples and four replicates were delivered to Friedman & Bruya, Inc. (F&BI) of Seattle, Washington on December 18, 2020 under chain-of-custody protocols. F&BI further processed (dried, sieved, subsampled, etc.) the samples per ISM protocols prior to analysis, with the exception of the sample for volatile organic constituent analysis. Laboratory subsampling and sample preparations were conducted in accordance with US Environmental Protection Agency's (EPA's) *Guidance for Obtaining Representative Laboratory Analytical Subsamples from Particulate Laboratory Samples* (EPA, 2003).

3.5 Laboratory Analysis

The target constituents of interest (COIs) for this investigation have been selected to best characterize the material based on its content (glass and plastic). The processed samples were analyzed for COIs identified in the Work Plan and specifically requested by ODEQ (see Table 3-2). Copies of the laboratory analytical reports with Quality Assurance / Quality Control (QA/QC) documentation are provided in Appendix B. The test methods meet the requirements in footnotes on page 7 of the IMD.

Table 3-2. Analytical Methods Used

Analytical Method	Constituents	Decision Unit
EPA 6020B	Total Resource Conservation and Recovery Act (RCRA) 8 Metals and antimony	All DU Samples
EPA 8260D	Volatile Organic Compounds (VOCs) • Dimethylvinyl chloride	All DU Samples
EPA 8270E	Semi-Volatile Organic Compounds (SVOCs) • Bisphenyl A (BPA) • Bis(2-ethylhexyl)phthalate (DEHP) • Dibutyl phthalate (Di-n-butyl phthalate) • Diethyl phthalate • Dimethyl phthalate • Di-n-octyl phthalate	All DU Samples

EPA = US Environmental Protection Agency

3.6 Cleanup Standards

All SVOC and metals data were compared to ODEQ Clean Fill Screening Levels (CFSLs). The CFSL values shown in Table 1 of the IMD consider naturally occurring concentrations of metals in the various regions of Oregon (provinces as shown in Figure 1 of the IMD).

If the contaminant concentrations in the material do not exceed CFSLs defined in the IMD tables, the material is assumed to be clean fill, as long as the other criteria described in the IMD are also met (i.e., is inert, stable and physically similar to clean fill). Additionally, in order for the material to be deemed clean fill, it must be below the CFSLs in the Oregon province in which it is disposed.

3.7 Data Quality Objectives

To ensure that data met specific project needs, the following have been adopted as Data Quality Objectives for this project:

- Sampling shall follow the ISM sampling protocol to ensure the entirety of each decision unit is represented.
- Two replicate samples will be collected from each decision unit. Replicate samples may be used to compute a coefficient of variance.
- Laboratory method reporting limits are sufficiently low to compare against ODEQ's CFSLs or are as low current EPA analytical methodology is capable of.

4.0 Findings

4.1 Material Description

Based on ENW's field observations, the Type 2 glass material contained a wide range of crushed glass pieces measuring up to approximately ½-inch in diameter, consistent with the process screen size used by West Side Entities. The maximum size of non-glass material was slightly larger because it is generally less brittle and more malleable than glass. The material was estimated to contain approximately one (1) percent or less of non-glass material (i.e., metal, paper, plastic, cork, etc.) based on field observation. Container glass from which the cullet was derived is considered an inert material. Analysis of the material sampled by ENW shows that there is essentially no organic content. No evidence of hazardous waste was observed in the material. Photographs of the material are provided in the Photolog in Appendix A.

4.2 Contaminant Evaluation

Table 1 (behind the text) presents a summary of the analytical results for the glass cullet samples collected from DU01 and DU02[6]. Pertinent findings are provided here:

4.2.1 Total RCRA 8 Metals + Antimony

Laboratory analysis by EPA Method 6020B detected the presence of three of the nine total metals analyzed, namely barium, chromium, and lead.

[6] The ODEQ guidance states that a "non-detect" is considered adequate confirmation that a constituent is not present as long as standard analytical method detection limits are met. Therefore, constituents not detected above the indicated method detection limits are considered to meet the screening levels for the purposes of this investigation.

- Total barium was detected in samples DU01, DU02 and their replicates at concentrations ranging from 6.71 milligrams per kilogram (mg/Kg) to 12.6 mg/Kg, which are less than ODEQ's CFSL of 15,000 mg/Kg.
- Total chromium was detected in DU01, DU02 and their replicates at 2.19 mg/Kg to 10.3 mg/Kg, which are less than ODEQ's CFSL of 78 mg/Kg.
- Total lead was detected at concentrations ranging from 3.83 mg/Kg to 11.9 mg/Kg, less than the CFSL of 34 mg/Kg.
- None of the remaining RCRA 8 total metals and antimony were detected above their respective laboratory method reporting limits (MRLs).

4.2.2 Volatile Organic Compounds

Laboratory analysis by EPA Method 8260D included analysis for dimethylvinyl chloride. Dimethylvinyl chloride was not detected above the laboratory MRL in either of the samples, or their replicates. All "non-detect" results were above the CFSL. The properties of this compound are not provided by EPA's analytical method. Therefore, the laboratory has flagged the result to indicate the chemical and physical properties of this compound were obtained from library research.

4.2.3 Semi-Volatile Organic Compounds

Laboratory analysis by EPA 8270E was performed for six (6) compounds associated with the production of plastics or protective coatings in food packaging.

None of the SVOC compounds were detected at or above their respective laboratory MRL. As with dimethylvinyl chloride, the results of bisphenyl A were flagged by the laboratory as its chemical properties were gathered through library research.

4.3 Quality Assurance / Quality Control

A review of the laboratory report indicates samples were generally analyzed within appropriate QA/QC procedures and specified holding times (see Appendix B for laboratory data validation form completed for this project).

The following exception was noted:

- The internal standard associated with the analysis of di-n-octyl phthalate in samples DU02 and one of its replicates was reported outside of control limits. The resulting estimated concentration was below reporting limits. Since the constituent was not detected, the exception is not considered to alter the findings of this investigation.

Laboratory results of replicate samples reported a coefficient of variance (CV) ranging from 5% (total barium) to 88% (total chromium) of the calculated mean, suggesting moderate variability between sample and replicate data (see Table 4-1). This is not unexpected, given the heterogeneous nature of the sampled material and the relatively low detected concentrations.

Table 4-1. Quality Control – Analysis of ISM Replicates

Analyte	Barium	Chromium	Lead
DU01	mg/Kg	mg/Kg	mg/Kg
DU01-201217-IS	7.43	10.3	3.96
DU01-201217-IS-REP01	6.71	2.19	3.83
DU01-201217-IS-REP02	7.19	2.85	4.34
Arithmetic Mean	7.110	5.11	4.04
Standard Deviation	0.37	4.50	0.27
CV = SD / mean	0.05	0.88	0.07
count (r)	3	3	3
alpha (90% = 0.1)	0.10	0.10	0.10
t(alpha, df=r-1)	1.89	1.89	1.89

Analyte	Barium	Chromium	Lead
DU02	mg/Kg	mg/Kg	mg/Kg
DU02-201217-IS	12.6	4.13	11.9
DU02-201217-IS-REP01	9.64	2.31	5.3
DU02-201217-IS-REP02	11	4.37	9.37
Arithmetic Mean	11.080	3.60	8.86
Standard Deviation	1.48	1.13	3.33
CV = SD / mean	0.13	0.31	0.38
count (r)	3	3	3
alpha (90% = 0.1)	0.10	0.10	0.10
t(alpha, df=r-1)	1.89	1.89	1.89

5.0 Discussion

The findings of this investigation appear to indicate the glass cullet stockpiled at the site (DU01) and used as base material on haul roads (DU02) meet the criteria for "substantially similar to clean fill." Specifically, the glass cullet is:

- Inert,
- Stable and physically similar to Clean Fill,
- Will not discharge constituents which would adversely impact waters of the state, and
- Does not contain COIs at concentrations exceeding CFSLs.

West Side Entities seeks to repurpose the glass cullet on-site as reclamation fill during the remainder of the reclamation period. The proposed location of glass cullet, if approved through permit exemption by ODEQ, is planned for use at the quarry as road fill and construction of temporary berms around parking areas and as general reclamation quarry fill. The location will occur entirely within the quarry boundaries, which is in the Portland Basin. (No constituents were detected above the Portland Basin clean fill screening levels during this evaluation.) Placement will be reserved for only those portions of the quarry that are physically separated from any wetlands, ground water, or surface water bodies (i.e., streams, ponds, etc.).

6.0 Conclusions

The results of this investigation have led ENW to the following conclusions:

- West Side Entities has requested that ODEQ approve of disposing of this material as clean fill at the site under DOGAMI approved reclamation plan.
- State regulations allow ODEQ to provide "other written authorization" under current state guidelines, if West Side Entities met the requirements of OAR 340-093-0080(2) for a permit exemption.
- ENW has performed a "Substantially Similar to" Clean Fill Determination in accordance with the ODEQ's IMD and this assessment has determined that the glass material is inert, stable, and

physically similar to clean fill, and does not contain constituents that could adversely impact waters of the state.

If ODEQ agrees with the conclusions of this investigation, ENW requests that ODEQ provide a permit exemption allowing for use of the Type 2 stockpile material to be used for road surfacing and berms at the quarry, reclamation quarry fill, and allow the materials already placed in roads and berms to be left in place.

The results of this investigation are subject to approval by ODEQ to have the glass cullet qualified for use consistent with the requirements of a permit exemption under OAR 340-093-0080(2) (a substantially similar to clean fill determination). If ODEQ issued a permit exemption, West Side Entities understands that final approval will be subject to review and approval by DOGAMI.

7.0 Limitations

The scope of this report is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

The focus of the site closure does not extend to the presence of the following conditions unless they were the express concerns of contacted personnel, report and literature authors or the work scope.

- Naturally occurring toxic or hazardous substances in the subsurface soils, geology, and water,
- Toxicity of substances common in current habitable environments, such as stored chemicals, products, building materials and consumables,
- Contaminants or contaminant concentrations that are not a concern now but may be under future regulatory standards,
- Unpredictable events that may occur after ENW's site work, such as illegal dumping or accidental spillage.

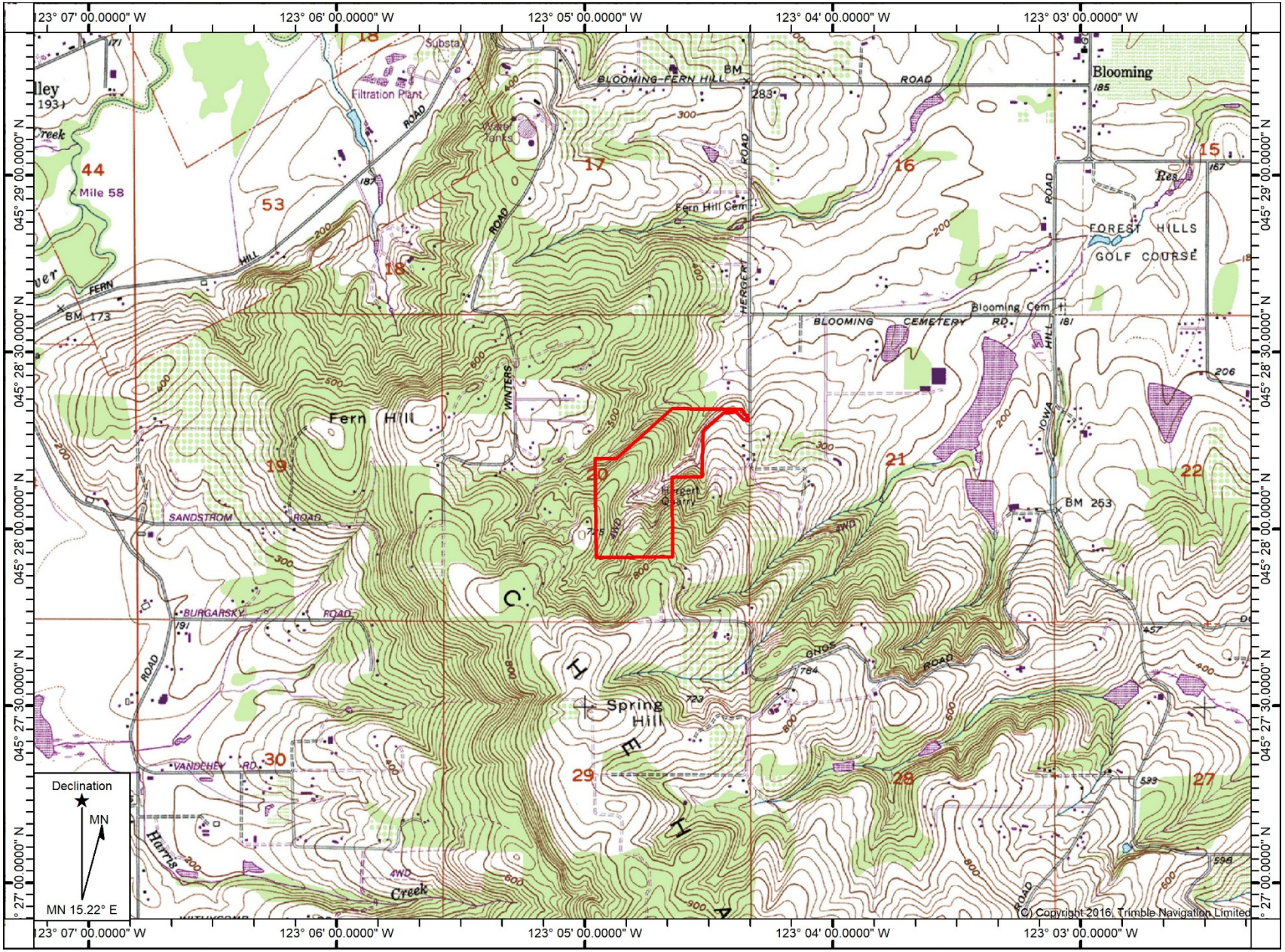
There is no practice that is thorough enough to absolutely identify the presence of all hazardous substances that may be present at a given site. ENW's investigation has been focused only on the potential for contamination that was specifically identified in the Scope of Work. Therefore, if contamination other than that specifically mentioned is present and not identified as part of a limited Scope of Work, ENW's environmental investigation shall not be construed as a guaranteed absence of such materials. ENW have endeavored to collect representative analytical samples for the locations and depths indicated in this report. However, no sampling program can thoroughly identify all variations in contaminant distribution.

We have performed our services for this project in accordance with our agreement and understanding with the client. This document and the information contained herein have been prepared solely for the use of the client.

ENW performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that ENW may have failed to identify regulation violations related to the presence of hazardous substances other than those specifically mentioned at the closure

site. ENW assumes no responsibility for conditions that we did not specifically evaluate or conditions that were not generally recognized as environmentally unacceptable at the time this report was prepared.

Figures



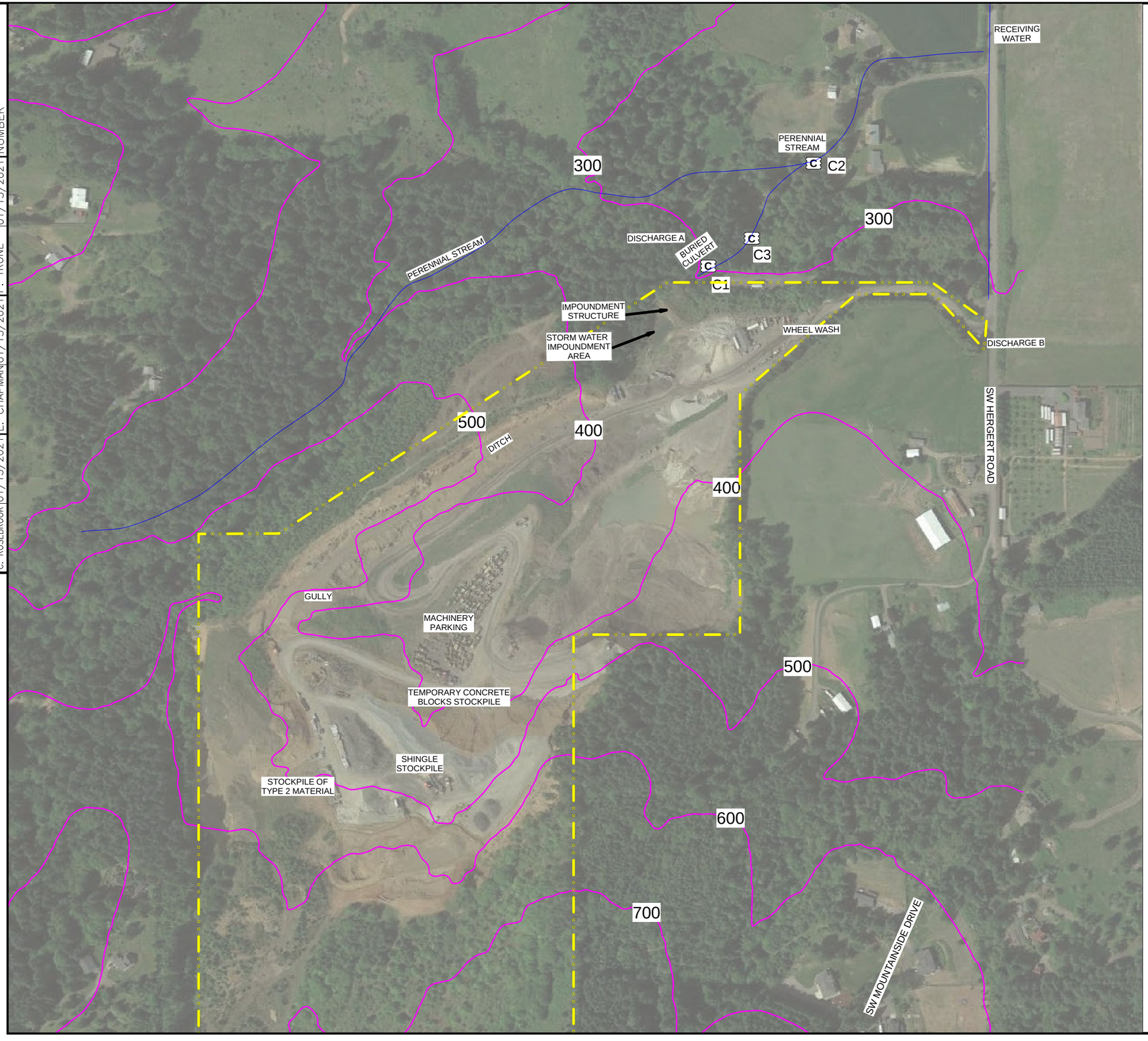
Name: LAURELWOOD
Date: Jan 1, 1992

0 1000 2000 3000 4000 5000
Feet

Location: 045° 28' 09.0948" N, 123° 04' 46.1143" W

EVREN NORTHWEST	Date Drawn: 10/11/2020 CAD File Name: Drawn By: CLR Approved By: LDG	West Side Quarry 6655 SW Hergert Road Cornelius, Oregon	**Site Vicinity Map**	Project No. 1350-20001 Figure No. **1**

DRAWING NUMBER	APPROVED BY	CHECKED BY	DRAWN BY
1350-20001(v01)	P. TRONE 01/13/2021	E. CHAPMAN 01/13/2021	C. ROSEBROOK 01/13/2021



LEGEND:

- SUBJECT PROPERTY BOUNDARIES
- TOPOGRAPHIC CONTOURS (100 FOOT INTERVALS)
- C — CULVERT
- S — SEEP
- C1 — CULVERT ON VANAKIN PROPERTY
- C2 — CULVERT FROM CONFLUENCE OF DRAINAGES
- C3 — OUTLET FROM C1

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 320 640 FEET

N

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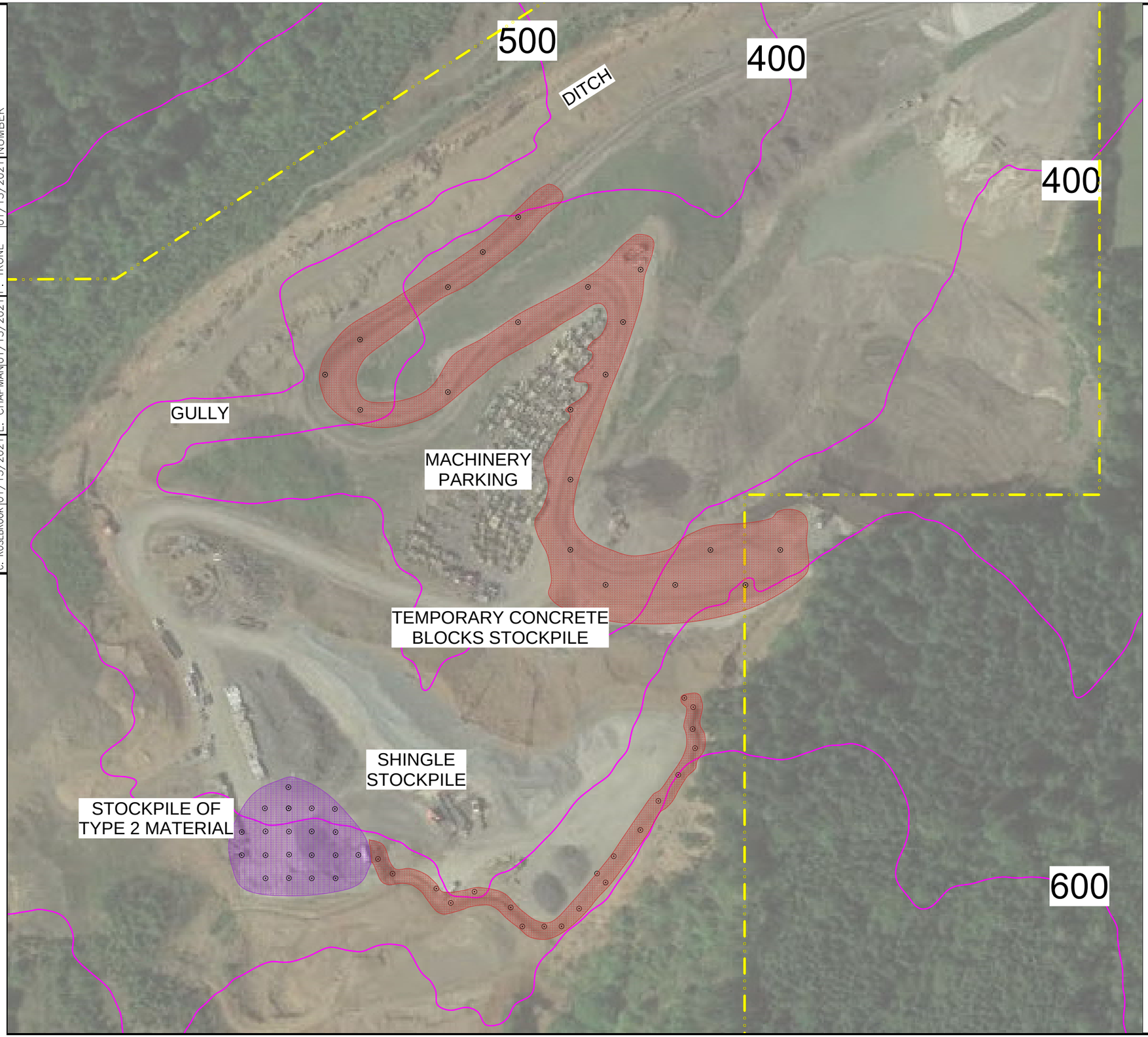
FIGURE 2

SITE PLAN

WEST SIDE QUARRY LLC
6655 HERGERT ROAD
CORNELIUS, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
C. ROSEBROOK 01/13/2021	E. CHAPMAN 01/13/2021	P. TRONE 01/13/2021	1350-20001(v01)



LEGEND:

- SUBJECT PROPERTY BOUNDARIES
- DECISION UNIT DU01
- DECISION UNIT DU02
- TOPOGRAPHIC CONTOURS (100 FOOT INTERVALS)
- VISUAL APPROXIMATION OF INCREMENTAL SAMPLE POINT

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2019 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 150 300 FEET

N

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FIGURE 3

DECISION UNIT AND INCREMENTAL SAMPLE LOCATION DIAGRAM

WEST SIDE QUARRY LLC
6655 HERGERT ROAD
CORNELIUS, OREGON

Table 1 - Summary of Analytical Data, Fill (Type 2 Glass Cullet)

Location ID		DU01			DU02			Maximum Concentration (remaining soil)	Background Concentrations (Regional Default)	Clean Fill Screening Levels or Background Concentrations (as applicable)	Exceeds Background Concentrations (metals) or Clean Fill Screening
Sample ID		DU01-201217-IS	DU01-201217-IS-REP01	DU01-201217-IS-REP02	DU02-201217-IS	DU02-201217-IS-REP01	DU02-201217-IS-REP02				
Date Sampled		12/17/2020	12/17/2020	12/17/2020	12/17/2020	12/17/2020	12/17/2020				
Depth Sampled (feet)											
Sampled By		ENW	ENW	ENW	ENW	ENW	ENW				
Location		Stockpiled Processed Glass Cullet	Stockpiled Processed Glass Cullet	Stockpiled Processed Glass Cullet	Roadway Cover & Berms	Roadway Cover & Berms	Roadway Cover & Berms		Portland Basin		TRUE OR Y FALSE OR N
Constituent of Interest	Note	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)	mg/Kg (ppm)			
Volatile Organic Constituents											
Dimethylvinyl chloride	c, nv	<5 L	<5 L	<5 L	<5 L	<5 L	<5 L	<5 L	---	0.0066	(TRUE)
Metals											
Antimony	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	0.67	0.67	(TRUE)
Arsenic	c, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	8.8	8.8	FALSE
Barium	nc, nv	7.43	6.71	7.19	12.6	9.64	11	12.6	790	790	FALSE
Cadmium	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	0.63	0.63	(TRUE)
Chromium (III)	nc, nv	10.3	2.19	2.85	4.13	2.31	4.37	10.3	76	76	FALSE
Lead	NA, nv	3.96	3.83	4.34	11.9	5.3	9.37	11.9	79	34	FALSE
Mercury	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	0.23	0.23	(TRUE)
Selenium	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	0.93	0.93	(TRUE)
Silver	nc, nv	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	<1 (ND)	0.82	0.82	(TRUE)
Semivolatile Organic Constituents											
Bis(2-ethylhexyl)phthalate	c, nv	<0.8 (ND)	<0.8 (ND)	<0.8 (ND)	<0.8 (ND)	<0.8 (ND)	<0.8 (ND)	<0.8 (ND)	---	0.02	(TRUE)
Bisphenyl A	nc, nv	<5 L	<5 L	<5 L	<5 L	<5 L	<5 L	<5 (ND)	---	3200	FALSE
Diethyl phthalate	nc, nv	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	100	FALSE
Dimethyl phthalate	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	10	FALSE
Di-n-butyl phthalate	---	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	---	0.011	(TRUE)
Di-n-octyl phthalate	nc, nv	<0.5 (ND)	<0.5 (ND)	<0.5 (ND)	<2.5 (ND)	<0.5 (ND)	<2.5 (ND)	<2.5 (ND)	---	0.91	(TRUE)

Notes:
mg/Kg = milligram per kilogram or parts per million (ppm).
<# (ND) = not detected at or above the laboratory method reporting limit shown.
NE = not established.
— = not analyzed or not applicable.
c = carcinogenic
nc = noncarcinogenic
v = volatile
nv = nonvolatile
(TRUE) indicates analyte not detected, but detection limit is above screening concentration.

L = The reported concentration was generated from a library search.

Appendix A – Photographic Log

View of glass cullet stockpile in the upper part of the quarry (decision unit DU01).

View of the Type 2 material placed as haul road cover and also forming berms surrounding parking/storage areas (DU02).

West Side Entity provided equipment and an operator to assist with sampling efforts within DU01. 60 subsamples (increments) of material were collected from the sides, top, center, and base of the stockpile with the assistance of the track hoe.

40 increments of cullet were collected from DU02 using a decontaminated stainless-steel trowel and stainless-steel hand auger.

EVREN NORTHWEST INC environmental / natural resource consultants	West Side Quarry Cornelius, Oregon	**Site Photographs**	Project No. 1350-20001-01 Appendix **A**

Close-up view of glass cullet placed as cover on haul roads within DU02.

Material was weighed using a digital scale to ensure increments were of approximate equal mass.

Increments were placed into 1-gallon glass jars provided by the laboratory. One sample and two replicates were collected from each decision unit.

EVREN NORTHWEST INC environmental / natural resource consultants	West Side Quarry Cornelius, Oregon	**Site Photographs**	Project No. 1350-20001-01 Appendix **A**

Appendix B – Laboratory Report

Summary: DATA VALID? ☒YES

Analytical Laboratory Data Validation Check Sheet

Project Name: VF Law Project Number: 1350-20001-01

Date of Review: 12/30/2020 Lab. Name: **F&BI** Lab Batch ID #: 012333

Chain of Custody

1.) Are all requested analyses reported?	☒yes	☐no	
2.) Were the requested methods used?	☒yes	☐no	
3.) Trip blank submitted?	☐yes	☒no	
4.) Field blank submitted?	☐yes	☒no	
Timing			
5.) Samples extracted within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
6.) Analysis performed within holding times?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Quality Assurance/Quality Control			
7.) Are the required reporting limits reported? (MRLs vs MDLs/PQLs)	☒yes	☐no	
8.) Are all reported values above either MRL or MDL?	☒yes	☐no	
9.) Are all values between the MDL & PQL tagged as trace?	☐yes	☐no	☒NA
10a.) Are reporting limits raised for other reason besides high analyte conc.?	☐yes	☒no	
10b.) If so, are they footnoted?	☐yes	☐no	☒NA
11.) Lab method blank completed?	☒yes	☐no	
12.) Lab, Field, or Trip Blank(s) report detections?	☐yes	☒no	

If yes, indicate blank type, chemical(s) and concentration(s): _____

13.) For inorganics and metals, is there one method blank for each analyte?	☒yes	☐no	☒NA
If not, are all discrepancies footnoted?	☐yes	☐no	
14.) For VOCs, is there one method blank for each day of analysis?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
15.) For SVOC's, is there one method blank for each extraction batch?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	
Accuracy			
16.) Is there a surrogate spike recovery for all VOC & SVOC samples?	☒yes	☐no	☐NA
Do all surrogate spike recoveries meet accepted criteria?	☐yes	☒no	
If not, are all discrepancies footnoted? **See comment d**	☒yes	☐no	☐NA
17.) Is there a spike recovery for all Laboratory Control Samples?	☒yes	☐no	☐NA
Do all LCS/LCSD spike recoveries meet accepted criteria?	☒yes	☐no	
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
18.) Are all LCS/LCSD RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
Precision			
19.) Are all matrix spike/matrix spike duplicate recoveries within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
20.) Are all matrix spike/matrix spike duplicate RPDs within acceptable limits?	☒yes	☐no	☐NA
If not, are all discrepancies footnoted?	☐yes	☐no	☒NA
21.) Do all RPD calculations for Field Duplicates meet accepted criteria?	☐yes	☐no	☒NA

Comments:
d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

Initial Review By: CR **Final** Review By: _____

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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January 5, 2021

Lynn Green, Project Manager
Evren Northwest, Inc.
PO Box 14488
Portland, OR 97293

Dear Mr Green:

Included are the results from the testing of material submitted on December 18, 2020 from the 1350-20001-01, F&BI 012333 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Neil Woller, Paul Trone, Evan Bruggeman
ENW0105R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on December 18, 2020 by Friedman & Bruya, Inc. from the Evren Northwest 1350-20001-01, F&BI 012333 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Evren Northwest
012333 -01	DU01-201217-IS
012333 -02	DU01-201217-IS-REP01
012333 -03	DU01-201217-IS-REP02
012333 -04	DU02-201217-IS
012333 -05	DU02-201217-IS-REP01
012333 -06	DU02-201217-IS-REP02

An 8270E internal standard failed the acceptance criteria for sample DU02-201217-IS and DU02-201217-IS-REP02. The samples were diluted and reanalyzed with acceptable results. Both data sets were reported.

The 8260D samples were taken from a one gallon jar. The data were flagged accordingly.

All other quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU01-201217-IS	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-01
Date Analyzed:	12/22/20	Data File:	012333-01.118
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	7.43
Cadmium	<1
Chromium	10.3
Lead	3.96
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU01-201217-IS-REP01	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-02
Date Analyzed:	12/22/20	Data File:	012333-02.119
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	6.71
Cadmium	<1
Chromium	2.19
Lead	3.83
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU01-201217-IS-REP02	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-03
Date Analyzed:	12/22/20	Data File:	012333-03.120
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	7.19
Cadmium	<1
Chromium	2.85
Lead	4.34
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU02-201217-IS	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-04
Date Analyzed:	12/22/20	Data File:	012333-04.121
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	12.6
Cadmium	<1
Chromium	4.13
Lead	11.9
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU02-201217-IS-REP01	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-05
Date Analyzed:	12/22/20	Data File:	012333-05.130
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	9.64
Cadmium	<1
Chromium	2.31
Lead	5.30
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	DU02-201217-IS-REP02	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-06
Date Analyzed:	12/22/20	Data File:	012333-06.131
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	11.0
Cadmium	<1
Chromium	4.37
Lead	9.37
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	I0-786 mb2
Date Analyzed:	12/22/20	Data File:	I0-786 mb2.061
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Antimony	<1
Arsenic	<1
Barium	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU01-201217-IS pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-01
Date Analyzed:	12/30/20	Data File:	123008.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	101	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU01-201217-IS-REP01 pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-02
Date Analyzed:	12/30/20	Data File:	123009.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU01-201217-IS-REP02 pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-03
Date Analyzed:	12/30/20	Data File:	123010.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	62	145
Toluene-d8	103	55	145
4-Bromofluorobenzene	102	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU02-201217-IS pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-04
Date Analyzed:	12/30/20	Data File:	123011.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	145
Toluene-d8	100	55	145
4-Bromofluorobenzene	104	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU02-201217-IS-REP01 pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-05
Date Analyzed:	12/30/20	Data File:	123012.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	97	62	145
Toluene-d8	102	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	DU02-201217-IS-REP02 pc	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	012333-06
Date Analyzed:	12/30/20	Data File:	123013.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	95	62	145
Toluene-d8	101	55	145
4-Bromofluorobenzene	103	65	139

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Volatile Compounds By EPA Method 8260D

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/30/20	Lab ID:	00-2911 mb
Date Analyzed:	12/30/20	Data File:	123009.D
Matrix:	Soil	Instrument:	GCMS13
Units:	mg/kg (ppm) Dry Weight	Operator:	JCM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	106	50	150
Toluene-d8	102	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethylvinyl chloride	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU01-201217-IS	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-01 1/5
Date Analyzed:	12/28/20	Data File:	122814.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	65	36	114
Phenol-d6	72	47	116
Nitrobenzene-d5	84	38	117
2-Fluorobiphenyl	81	50	150
2,4,6-Tribromophenol	72	25	187
Terphenyl-d14	90	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU01-201217-IS-REP01	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-02 1/5
Date Analyzed:	12/28/20	Data File:	122815.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	66	36	114
Phenol-d6	75	47	116
Nitrobenzene-d5	75	38	117
2-Fluorobiphenyl	80	50	150
2,4,6-Tribromophenol	80	25	187
Terphenyl-d14	95	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU01-201217-IS-REP02	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-03 1/5
Date Analyzed:	12/28/20	Data File:	122816.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	71	36	114
Phenol-d6	81	47	116
Nitrobenzene-d5	82	38	117
2-Fluorobiphenyl	86	50	150
2,4,6-Tribromophenol	81	25	187
Terphenyl-d14	95	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU02-201217-IS	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-04 1/5
Date Analyzed:	12/28/20	Data File:	122817.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	69	36	114
Phenol-d6	77	47	116
Nitrobenzene-d5	82	38	117
2-Fluorobiphenyl	88	50	150
2,4,6-Tribromophenol	80	25	187
Terphenyl-d14	90	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5 J
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU02-201217-IS	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-04 1/25
Date Analyzed:	12/22/20	Data File:	122212.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	71 d	36	114
Phenol-d6	78 d	47	116
Nitrobenzene-d5	77 d	38	117
2-Fluorobiphenyl	83 d	50	150
2,4,6-Tribromophenol	80 d	25	187
Terphenyl-d14	82 d	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<2.5
Diethyl phthalate	<2.5
Di-n-butyl phthalate	<2.5
Bis(2-ethylhexyl) phthalate	<4
Di-n-octyl phthalate	<2.5
Bisphenol A	<25 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU02-201217-IS-REP01	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-05 1/5
Date Analyzed:	12/30/20	Data File:	123009.D
Matrix:	Soil	Instrument:	GCMS9
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	66	32	100
Phenol-d6	72	46	107
Nitrobenzene-d5	82	24	127
2-Fluorobiphenyl	83	46	108
2,4,6-Tribromophenol	67	25	127
Terphenyl-d14	86	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU02-201217-IS-REP02	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-06 1/5
Date Analyzed:	12/28/20	Data File:	122819.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	72	36	114
Phenol-d6	81	47	116
Nitrobenzene-d5	89	38	117
2-Fluorobiphenyl	87	50	150
2,4,6-Tribromophenol	81	25	187
Terphenyl-d14	98	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5 J
Bisphenol A	<5 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	DU02-201217-IS-REP02	Client:	Evren Northwest
Date Received:	12/18/20	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	012333-06 1/25
Date Analyzed:	12/22/20	Data File:	122214.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	73 d	36	114
Phenol-d6	81 d	47	116
Nitrobenzene-d5	77 d	38	117
2-Fluorobiphenyl	86 d	50	150
2,4,6-Tribromophenol	80 d	25	187
Terphenyl-d14	83 d	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<2.5
Diethyl phthalate	<2.5
Di-n-butyl phthalate	<2.5
Bis(2-ethylhexyl) phthalate	<4
Di-n-octyl phthalate	<2.5
Bisphenol A	<25 L

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Evren Northwest
Date Received:	Not Applicable	Project:	1350-20001-01, F&BI 012333
Date Extracted:	12/22/20	Lab ID:	00-2875 mb 1/5
Date Analyzed:	12/22/20	Data File:	122207.D
Matrix:	Soil	Instrument:	GCMS8
Units:	mg/kg (ppm) Dry Weight	Operator:	YA

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
2-Fluorophenol	85	36	114
Phenol-d6	93	47	116
Nitrobenzene-d5	94	38	117
2-Fluorobiphenyl	97	50	150
2,4,6-Tribromophenol	89	25	187
Terphenyl-d14	96	50	150

Compounds:	Concentration mg/kg (ppm)
Dimethyl phthalate	<0.5
Diethyl phthalate	<0.5
Di-n-butyl phthalate	<0.5
Bis(2-ethylhexyl) phthalate	<0.8
Di-n-octyl phthalate	<0.5
Bisphenol A	<5 L

Date of Report: 01/05/21
Date Received: 12/18/20
Project: 1350-20001-01, F&BI 012333

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 012344-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Antimony	mg/kg (ppm)	20	<5	83	85	75-125	2
Arsenic	mg/kg (ppm)	10	<5	89	92	75-125	3
Barium	mg/kg (ppm)	50	68.9	106	103	75-125	3
Cadmium	mg/kg (ppm)	10	<5	93	94	75-125	1
Chromium	mg/kg (ppm)	50	26.0	98	99	75-125	1
Lead	mg/kg (ppm)	50	<5	88	88	75-125	0
Mercury	mg/kg (ppm	5	<5	80	91	75-125	13
Selenium	mg/kg (ppm)	5	<5	84	81	75-125	4
Silver	mg/kg (ppm)	10	<5	82	89	75-125	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Antimony	mg/kg (ppm)	20	92	80-120
Arsenic	mg/kg (ppm)	10	91	80-120
Barium	mg/kg (ppm)	50	94	80-120
Cadmium	mg/kg (ppm)	10	96	80-120
Chromium	mg/kg (ppm)	50	107	80-120
Lead	mg/kg (ppm)	50	95	80-120
Mercury	mg/kg (ppm)	5	93	80-120
Selenium	mg/kg (ppm)	5	85	80-120
Silver	mg/kg (ppm)	10	88	80-120

Date of Report: 01/05/21
Date Received: 12/18/20
Project: 1350-20001-01, F&BI 012333

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dimethyl phthalate	mg/kg (ppm)	0.83	86	89	64-127	3
Diethyl phthalate	mg/kg (ppm)	0.83	85	87	63-133	2
Di-n-butyl phthalate	mg/kg (ppm)	0.83	93	95	70-130	2
Bis(2-ethylhexyl) phthalate	mg/kg (ppm)	0.83	88	95	38-153	8
Di-n-octyl phthalate	mg/kg (ppm)	0.83	95	97	52-141	2

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

012333

SAMPLE CHAIN OF CUSTODY

ME 12/18/20

Page # 1 of 1 ISM

Report To LYNN GREE
Company EVREN NORTHWEST
Address 40 SE 24th UNIT A
City, State, ZIP PORTLAND, OR 97214
Phone 503-452-5561 Email

SAMPLERS (signature) Barb Lary

PROJECT NAME: 1350-20001-01

PO #

REMARKS: * SEE ATTACHED LIST OF SVOCS
Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
X Standard turnaround
☐ RUSH
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	ISM Frocedure	RCRA 8 METALS + ANTIMONY			Notes
DU01-201217-1S	01	12/17/20	1040	SOIL	1						X		X	X			
DU01-201217-1S-REP01	02		1040								X		X	X			
DU01-201217-1S-REP02	03		1040								X		X	X			
DU02-20217-1S	04		1230								X		X	X			
DU02-201217-1S-REP01	05		1230								X		X	X			
DU02-20217-1S-REP02	06	↓	1230	↓	↓						X		X	X			

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Barb Lary	BARB LARY	ENW	12/17/20	1800
Received by:	Nhan Phan	Nhan Phan	FedEx	12/17/20	0950
Relinquished by:					
Received by:			Samples received at 4 °C		

Friedman & Bruya, Inc.
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Appendix B – Laboratory Report